

ChemScan® Process Analyzer

PROJECT REPORT AND DATA SUMMARY
Publication #108

CHLORAMINATION MONITORING AND CONTROL
ROLLING HILLS WTP, FORT WORTH, TX

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**ChemScan UV-4100 Measuring Total Ammonia,
Free Ammonia and Monochloramine
Rolling Hills WTP, Fort Worth TX**

The Rolling Hills Water Treatment Plant in Fort Worth TX has a need to monitor the ammonia and chlorine as a result of implementing a chloramination disinfection process. Within the process, ammonia and chlorine are added to provide disinfection throughout the distribution system while minimizing the formation of chlorinated by-products.

A ChemScan UV-4100 Analyzer was installed in January 1999 and operated for a 4 week period. The analyzer monitored the plant's finished water as it entered the distribution system. Free ammonia, total ammonia and monochloramines were measured on a 15 minute cycle. The plant's operators collect and analyze lab samples every 4 hours. The lab measures free chlorine, total chlorine and total ammonia among other parameters in the finished water. The lab results along with the ChemScan readings were logged.

Attached is a summary of the data collected during the trial period. The lab and ChemScan total ammonia measurements are in very good agreement. The ChemScan tracked the process variation very well. Because the plant did not have the capability to measure the monochloramine in the operator's lab, the ChemScan monochloramine measurement has been compared to the plant total chlorine. It is interesting that except for a couple of excursions, the two parameters track very well. It is possible that the disagreements could be as a result of the formation of dichloramine which the lab would detect but the ChemScan monochloramine analysis would ignore.

